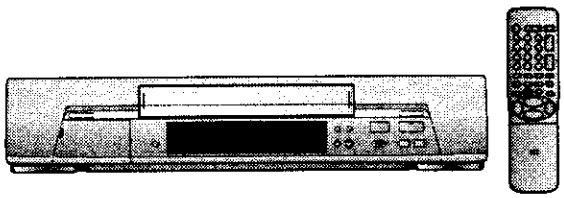
Panasonic



Video Cassette Recorder

NV-SJ400A

Operating Instructions

G-CODE®

VHS PAL NTSC

SUPER DRIVE MULTI-INTELLIGENT CONTROL II

VQT8773

Before attempting to connect, operate or adjust this product, please read these instructions completely.

Dear Customer

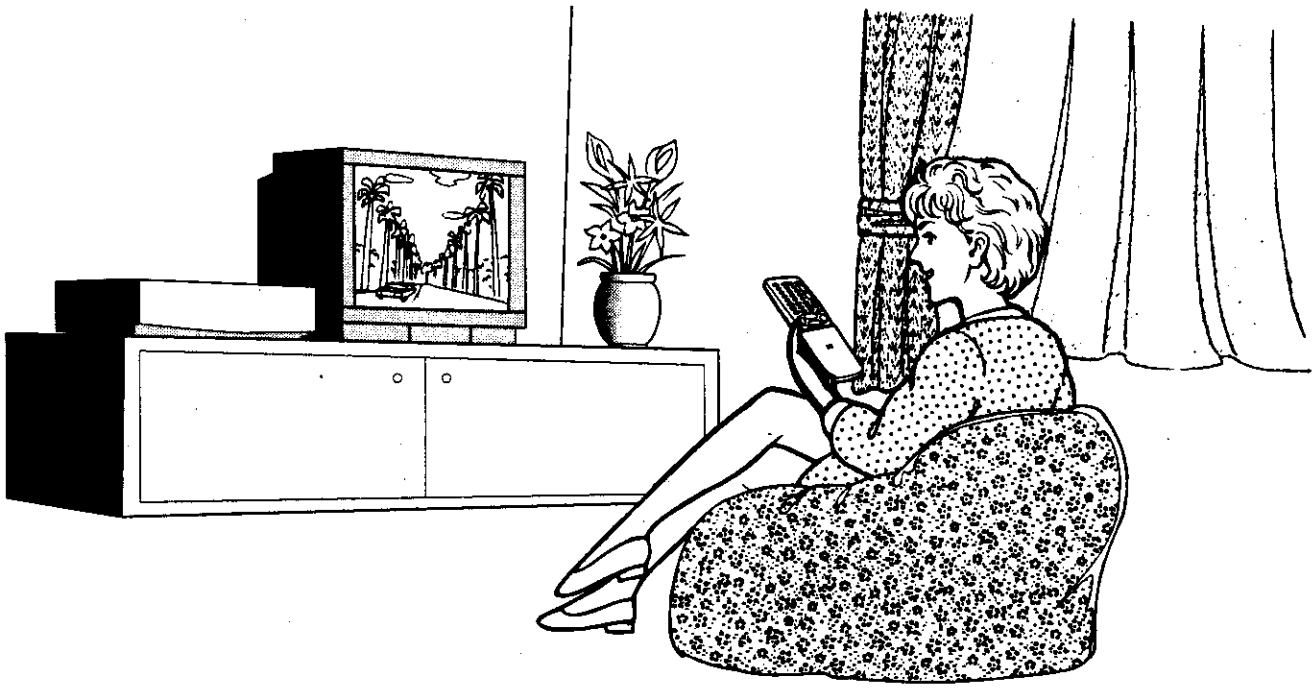
May we take this opportunity to thank you for purchasing this Panasonic Video Cassette Recorder.

We would particularly advise that you carefully study the Operating Instructions before attempting to operate the unit and that you note the listed precautions.

G-Code Programming System

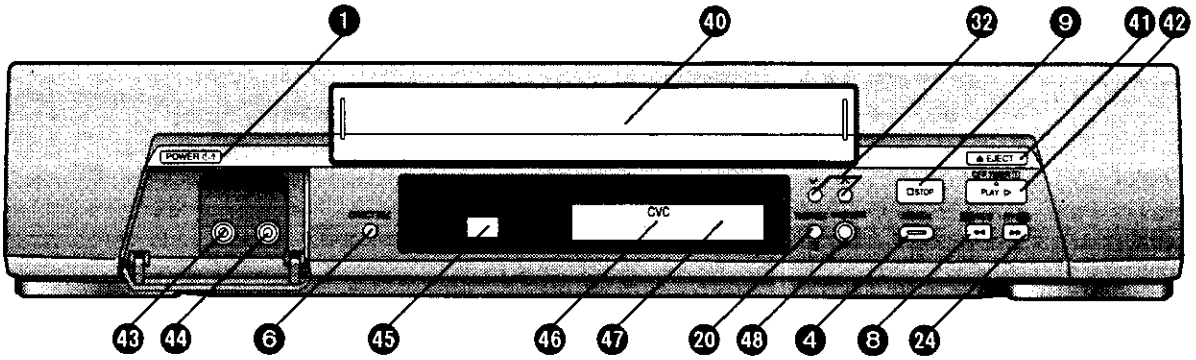
Programming is now easier than ever; simply enter the G-Code number found in the programme scheduling pages of newspapers and magazines.

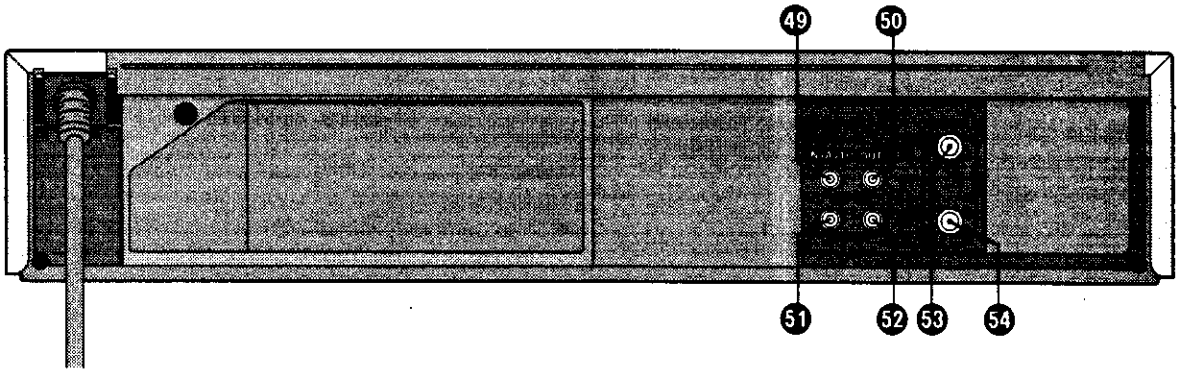
- G-CODE is a registered trademark of Gemstar Development Corporation. The G-CODE system is manufactured under license from Gemstar Development Corporation.

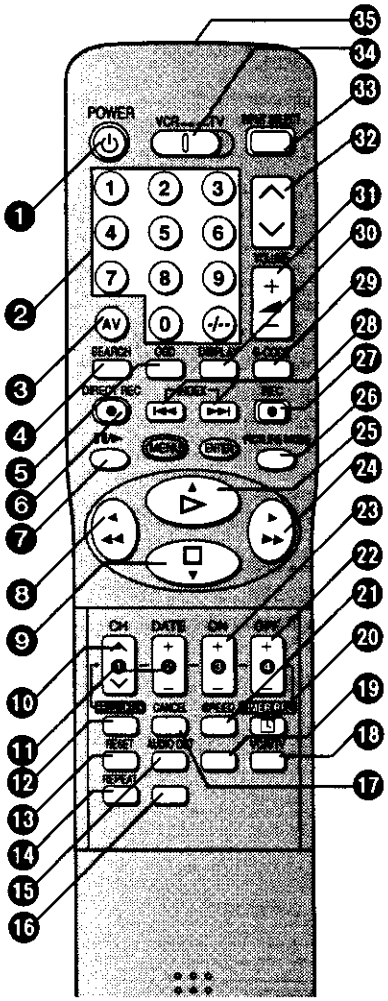


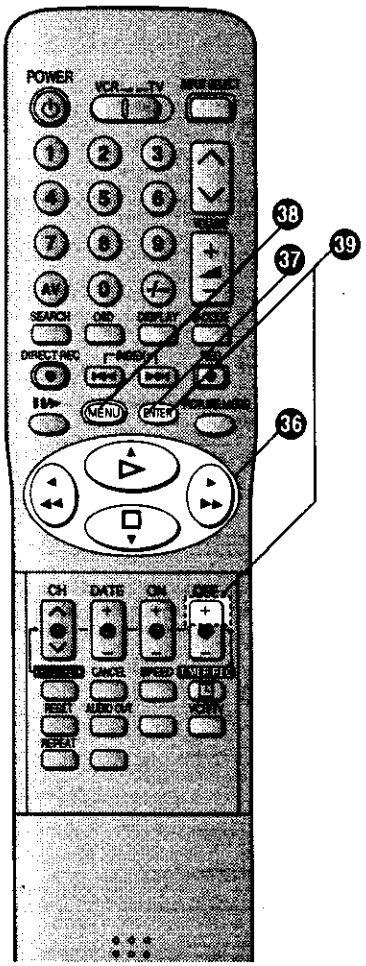
Positions of Controls and Components

Keep this page open as you read through the Operating Instructions. Refer to it for the control and component names and numbers which appear in the text.









Contents

As this equipment gets hot during use, operate it in a well ventilated place; do not install this equipment in a confined space such as a book case or similar unit.

IMPORTANT

Your attention is drawn to the fact that the recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

WARNING

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

FOR YOUR SAFETY

■ DO NOT REMOVE OUTER COVER.

To prevent electric shock, do not remove cover. There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

Press the POWER button ⏻ to switch the VCR from on to standby mode or vice versa. In the standby mode, the VCR is still connected to the mains.

Before Use

Introduction to Controls and Components **5**
Preparing the Remote Control **5**

Setting Up

Setting the Remote Control to Operate Your TV **6**
Connections **7**
Tuning the TV to Your VCR **8**
Storing TV Broadcasts in Your VCR **9**
Language Setting of the On Screen Display **12**
Setting the Clock of Your VCR **12**
Preparations for G-Code Programming **13**
Settings Using the On Screen Display **14**
- Option Setting 15

Basic Operations

Playback **17**
Manual Recording **19**
- To Immediately Record the Same Scenes of Programme That You Are Viewing on the TV (Direct Recording) 20
- To Select the Recording Duration and Perform Timer Recording (OTR Recording) 20

Advanced Operations

Timer Recording **21**
- 4-Key Programming 21
- G-Code Programming 24

Search Functions **25**
- Searching Timer-Recorded Programmes (Programme List Search) 25
- To Find the Beginning of Each Recording (VHS Index Search System) 26
- Searching while Checking the Video Cassette Contents (Intro-Jet Scan) 26

Making a Copy **27**
- Copying 27

Helpful Hints

Before Requesting Service **28**
- Adjusting the Playback Picture 29

Usage Precautions **30**

Specifications **31**

Introduction to Controls and Components

VCR Operation

When you want to operate the VCR, set the VCR/TV switch ⑭ to "VCR".

② Numeric buttons

To select the programme positions (1–99) of the VCR.

Example:

9: (9)

19: (+/--) → (1) → (9)

To enter a G-Code number.

To enter numbers for various settings.

⑬ RESET button

To reset the tape counter (elapsed time) to "0:00.00".

- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

⑮ AUDIO OUT button

This button does not operate on this VCR.

⑯ No function

⑱ VCR/TV button

This button does not operate on this VCR.

⑲ No function

㉟ Infra-red transmitter

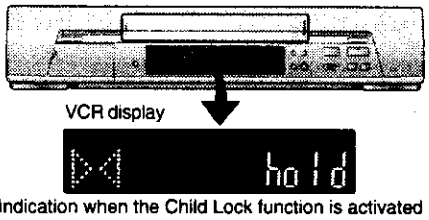
㊴ Child Lock Function buttons (Convenient function to prevent unauthorized use)

This function deactivates all buttons on the VCR and the remote control. Use this function, when you do not want other people to operate the VCR.

To Activate the Child Lock Function:

1 Hold down the ENTER and the OFF (+) buttons ㊴ simultaneously until the "⋈ hold" indication appears in the VCR display.

- If you press a button while the Child Lock function is on, the "⋈ hold" indication appears in the VCR display to inform you that no operation is possible.



Indication when the Child Lock function is activated

To Cancel the Child Lock Function:

1 Hold down the ENTER and the OFF (+) buttons ㊴ simultaneously until the "⋈ hold" indication disappears.

㊵ Cassette compartment

㊺ Infra-red Remote Control Receiver window

㊻ CVC (Crystal View Control) Indicator

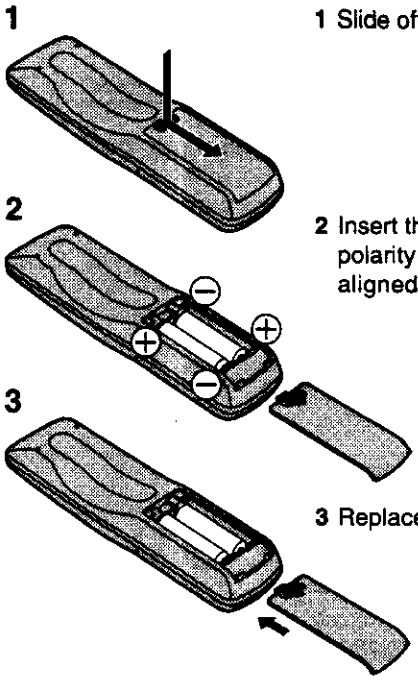
The crystal view control function ensure that you always obtain the optimum picture quality so that you get the best picture automatically.

While the VCR is turned on, the CVC indication ㊻ is always displayed to show that the Crystal View Control is activated.

㊼ VCR display

Preparing the Remote Control

Inserting Remote Control Batteries



1 Slide off the battery cover.

2 Insert the batteries with the polarity (⊕ and ⊖) correctly aligned.

3 Replace the battery cover.

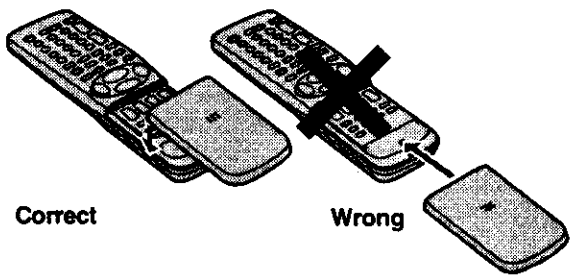
Notes for Battery Replacement:

- The service life of the batteries is approximately 1 year. However, it varies considerably depending on the frequency of use.
- When they are exhausted, replace them with two AA, UM3, or R6 size batteries.
- When the batteries are exhausted, remove them immediately and dispose of them correctly.
- Make sure that the batteries are inserted with the polarity (⊕ and ⊖) correctly aligned.
- Do not mix old battery with new battery.
- Do not mix different battery types, i.e. Alkaline and Manganese.
- Do not use rechargeable (Ni-Cd) batteries.
- Do not heat or short-circuit the batteries.
- When you do not use the remote control for a long time, take out the batteries and store them in a cool, dry place.

If the Sliding Cover of the Remote Control Becomes Detached

If the sliding cover of the remote control becomes detached accidentally, fit it securely in place by placing it on the top of the remote control at the position shown in the illustration below, and pushing it down until it clicks into position.

- It is not possible to fit the sliding cover in place by pushing or sliding it on from the bottom end of the remote control.



Setting the Remote Control to Operate Your TV

TV Operation

The explanations below show you what functions individual buttons have when the VCR/TV switch ㉞ is set to "TV".

❶ POWER button
To switch the TV on from standby mode (OFF) or vice versa.
On some TVs it is only possible to switch the TV to standby mode (OFF) with this button, but not on. In this case, try to turn the TV on with one of the following buttons:
Numeric buttons ❷
AV button ❸
Channel button ㉜

❷ Numeric buttons
To select the programme positions (1–99) on the TV.

❸ AV button
To select the desired AV input on the TV.

㉛ VOLUME button
To adjust the volume of the TV.

㉜ Channel button
To select the desired programme position (TV station) on the TV.

You can operate the TVs of the manufacturers listed below with the remote controller after setting it.

This setting procedure allows you to operate the TVs of some manufacturers using the supplied remote controller.

Preparation
- Set the VCR/TV switch ㉞ to "TV".

Operations

1 **Find the manufacturer number of your TV while referring to the following table.**

2 **While holding down the POWER button ❶, use the Numeric buttons ❷ to enter the manufacturer number. This completes the settings for the TV manufacturer.**
- Be sure to enter the number in two digits.
  Example: 1 —> 01

3 **To confirm the correct settings were made, check whether the TV can be operated properly.**
- When a manufacturer has multiple numbers in the following table, try entering other numbers if the TV operations cannot be performed properly, and then select the optimal number.

Notes:
- If you are using a Panasonic TV, this setting has already been made, and so you do not need to perform the above setting procedure. However, this remote controller may not work with some Panasonic TVs.
- Some TV models cannot be operated using this remote controller (including all TVs non-remote compatible).

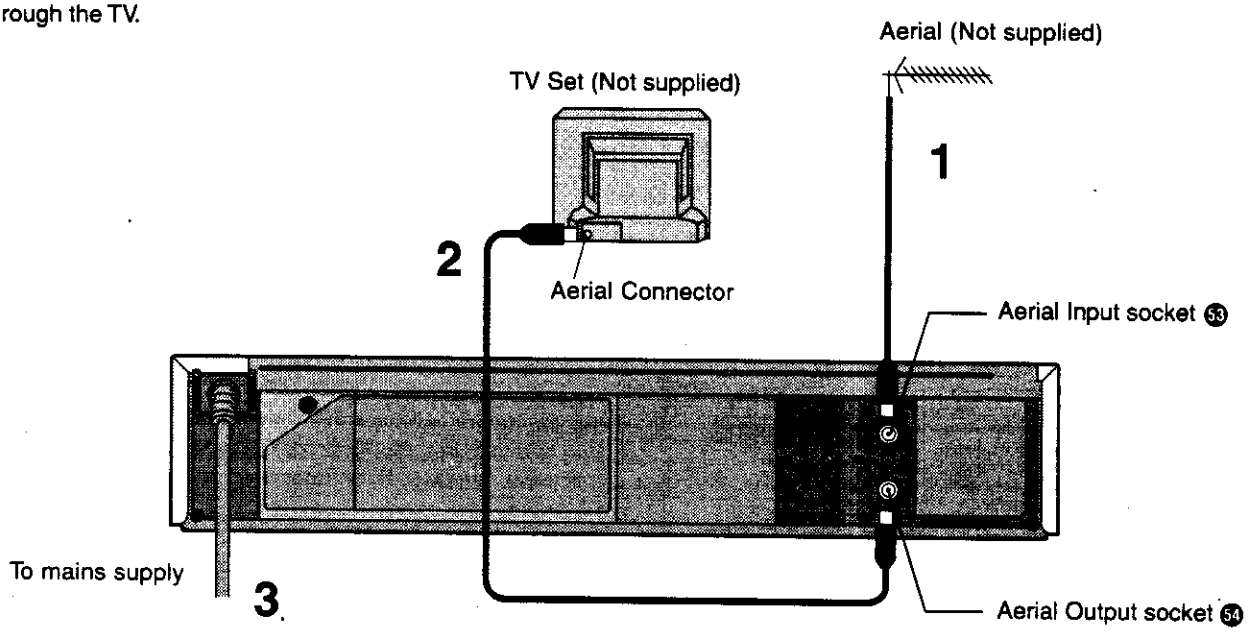
01 Panasonic/National
02 Panasonic/National
03 Panasonic/National
04 Panasonic/National
05 SONY
06 TOSHIBA
07 JVC
08 HITACHI
09 MITSUBISHI
10 MITSUBISHI
11 SHARP
12 PHILIPS, SAMSUNG
13 NEC
14 SANYO
15 GOLDSTAR/LG
16 GOLDSTAR/LG
17 SAMSUNG
18 SAMSUNG
19 SANYO

Connections

This section shows you how to connect the VCR to an aerial, TV, etc.

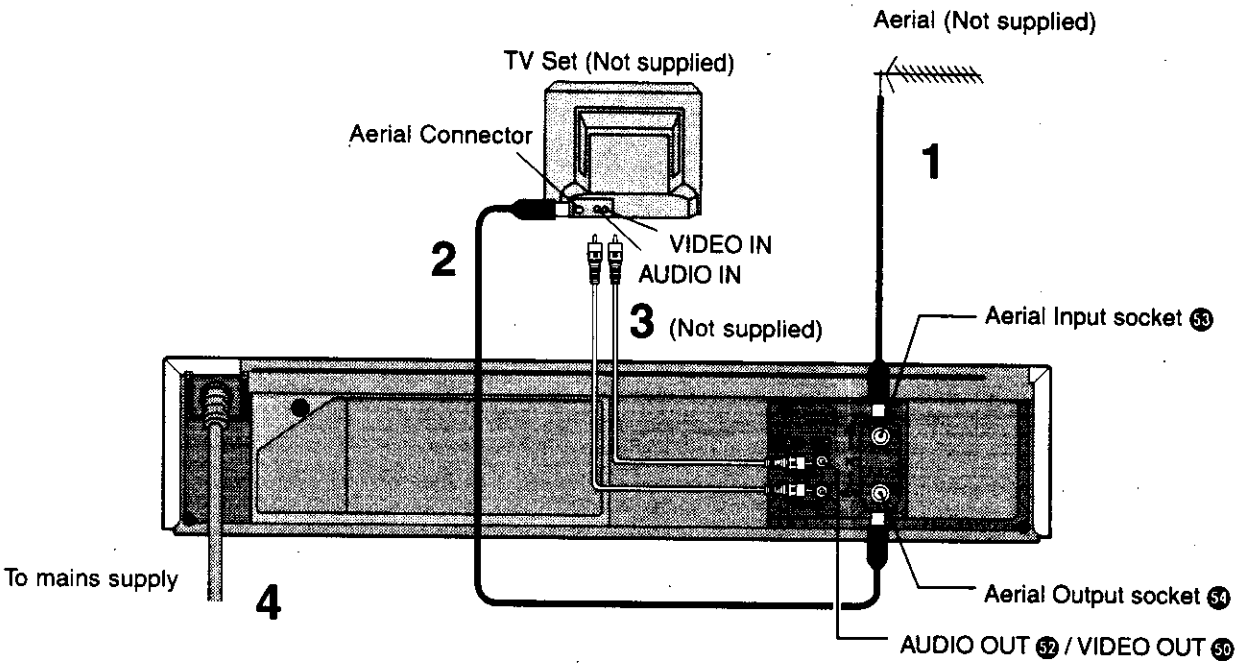
Basic Connections

The following connections are required to record and play back the video cassette through the TV.



Connections to a TV using the Audio/Video Input Sockets

Set the RF out put channel of the VCR to "– –" (RF OFF) when the VCR is connected to the TV via the Audio/Video cable.
(See page 8.)



Tuning the TV to Your VCR

The VCR supplies a signal to the TV via the RF coaxial cable on channel AU28-69, or NZ21-69.
It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.
If you have connected the VCR to the TV through the Audio/ Video input sockets, then you do not need to follow the procedure below.

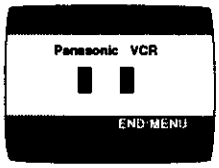
Preparation
- Turn on the TV and the VCR.

Operation

1 Hold down MENU button ㊳ for 5 seconds or more.

2 Set the TV to an unused position which you wish to use for your video playback.
- Tune the TV until the display shown on the right appears on the screen. (Please refer to the TV manufacturers operating instructions regarding tuning.)

On Screen Display



3 Press the MENU button ㊳.

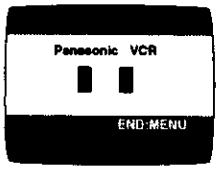
To Change the RF output Channel

In some rare cases after tuning the TV to your VCR, interference may be visible on the picture. To get rid of this interference, you can manually adjust the RF output channel a few channels up and down from the current setting. The procedure is described below.

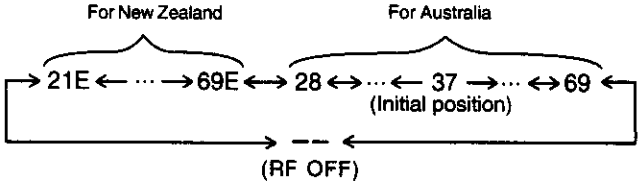
Operations

1 Hold down MENU button ㊳ for 5 seconds or more.
- The VCR display changes as shown below and the VCR picture on the TV displays this pattern.

VCR display



2 Enter the desired channel number (AU28-69, NZ21-69) by the Numeric buttons ❷ or the Channel button ㉜. After you entered the desired number, test pattern screen disappears.
- Ensure that the VCR/TV switch ㉞ is set to "VCR".
- Set the RF output channel of the VCR to "——" (RF OFF) when the VCR is connected to the TV via the Audio/ Video cable.
  Press the Channel button ㉜ to display "——".



- It is also possible to select by pressing the Numeric buttons ❷ (only for Australia).

  Example:
  28: ✓ → 2 → 8

3 Press the MENU button ㊳ to finish the setting mode.

4 Retune your TV to the new RF channel for the VCR. (Refer to the operations on the left.)

Storing TV Broadcasts in Your VCR

The VCR is fitted with its own tuner (just like a normal TV) and can be preset to receive up to 99 TV broadcast stations.

Pre-programmed TV Channels (Australia only)

The local TV broadcast channels 2, 7, 9, 10 and 28 are factory-preset in this VCR.
That is, if you can receive television broadcasts on VHF channels 2, 7, 9, 10 and UHF channel 28, these are already tuned on the programme positions with the matching numbers. However, it is possible to cancel these settings and tune the local TV broadcast channels to any desired programme position.

Before Auto Tuning Using the On Screen Display (New Zealand only)

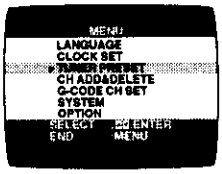
When you use this VCR in New Zealand, need to operate as follows:

Preparations
- Confirm that the VCR is on.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Set the VCR/TV switch ㉞ is set to "VCR".

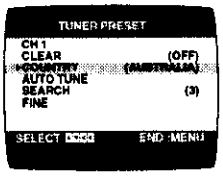
Operations

1 Press the MENU button ㉘ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㊱ to select "TUNER PRESET" then press the ENTER button ㊲.



3 Press the Cursor buttons (▲▼) ㊱ to select "COUNTRY" then press the Cursor buttons (◀ ▶) ㉟ to select "NEW ZEALAND".



4 Proceed to the step 3 on the right side to start the Auto Tuning.
- No need to operate the steps **1–2** of **Auto Tuning Using the On Screen Display**.

Auto Tuning Using the On Screen Display

Introduction
The VCR is tuned automatically by Plug in Auto Tuning. However, Auto Tuning using the On Screen Display should be performed according to the following method if necessary.

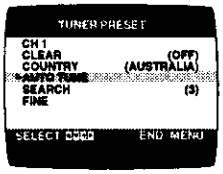
Preparations
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR and select any programme position except A1 or A2.

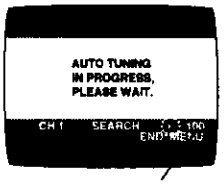
Operations

1 Press the MENU button ㉘ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㊱ to select "TUNER PRESET" then press the ENTER button ㊲.

3 Press the Cursor buttons (▲▼) ㊱ to select "AUTO TUNE" then press the Cursor buttons (◀ ▶) ㉟ to start the Auto Tuning.
- When Auto Tuning is completed, the On Screen Display disappears and programme position 1 is selected.





The number displayed here is the number of channels still to be auto tuned.

Channels that can be Received

	VHF	CATV	UHF
AUSTRALIA	0–12	45–470MHz	28–69
NEW ZEALAND	1–11	45–470MHz	21–69

Notes:
- Auto Tuning searches for TV stations from VHF minimum to UHF maximum and memorizes every tuned programme position. Other programme positions are skipped.
- Auto Tuning takes five or more minutes to complete its search.
- If the VCR is not correctly tuned by Auto Tuning, follow the procedure on the next page.

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR and select any programme position except A1 or A2.
- Set the VCR/TV switch ㉞ is set to "VCR".

Manual Tuning Procedure

1 Press the MENU button ㊳ to display the Main menu on the TV screen.

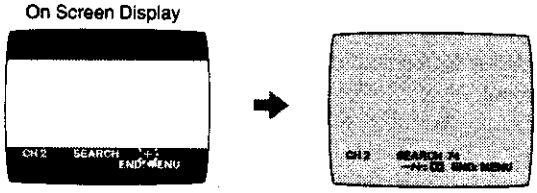
2 Press the Cursor buttons (▲▼) ㊱ to select "TUNER PRESET" then press the ENTER button ㊲.

3 Press the Cursor buttons (▲▼) ㊱ to select "CH" then select the channel number you want to tune by pressing the Cursor buttons (◄ ►) ㊱.

4 Confirm that "CLEAR" is set to "OFF".

5 Press the Cursor buttons (▲▼) ㊱ to select "SEARCH" then press the Cursor buttons (◄ ►) ㊱ to start the Manual Tuning.

On Screen Display



6 If the desired TV station has not been tuned, press the Cursor buttons (◄ ►) ㊱ again.
- Press the MENU button ㊳ and repeat steps **3–5** for each programme position you want to tune to a station.

7 Press the MENU button ㊳ three times to exit the On Screen Display.

Direct Tuning Procedure

1 Press the MENU button ㊳ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㊱ to select "TUNER PRESET" then press the ENTER button ㊲.

3 Press the Cursor buttons (▲▼) ㊱ to select "CH" then select the channel number you want to tune by pressing the Cursor buttons (◄ ►) ㊱.

4 Confirm that "CLEAR" is set to "OFF".

5 Press the Cursor buttons (▲▼) ㊱ to select "SEARCH".

6 Press the Numeric buttons ❷ to enter the number of the desired programme position.
For the 5A and 9A channels, input the following numbers: 90 for CH-5A, 91 for CH-9A. (Example for Australia.)
- For other channels that require tuning, repeat steps **3–6**.

7 Press the MENU button ㊳ twice to exit the On Screen Display.

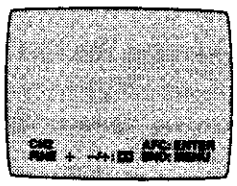
Fine Tuning Procedure

1 Press the MENU button ㊳ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㊱ to select "TUNER PRESET" then press the ENTER button ㊲.

3 Press the Cursor buttons (▲▼) ㊱ to select "CH" then select the channel number you want to tune by pressing the Cursor buttons (◄ ►) ㊱.

4 Press the Cursor buttons (▲▼) ㊱ to select "FINE" then press the Cursor buttons (◄ ►) ㊱ to start the Fine Tuning.
- Press the ENTER button ㊲ to return the tuning to its former state.



5 Press the MENU button ㊳ to exit the On Screen Display.

Blanking of Unused Programme Positions

1 Press the MENU button ㊳ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㊱ to select "TUNER PRESET" then press the ENTER button ㊲.

3 Press the Cursor buttons (▲▼) ㊱ to select "CH" then select the channel number you want to tune by pressing the Cursor buttons (◄ ►) ㊱.

4 Press the Cursor buttons (▲▼) ㊱ to select "CLEAR" then press the Cursor buttons (◄ ►) ㊱ to select "ON".
- Repeat steps **3–4** for other unused programme positions to skip during the selection of programme positions.
- To cancel the blanking of a programme position select that programme position then select "CLEAR" is "OFF".

5 Press the MENU button ㊳ twice to exit the On Screen Display.

To Add and Delete the Channel

Preparations

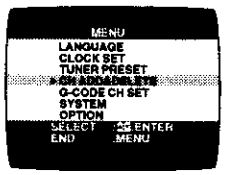
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR and select any programme position except A1 or A2.

Example:

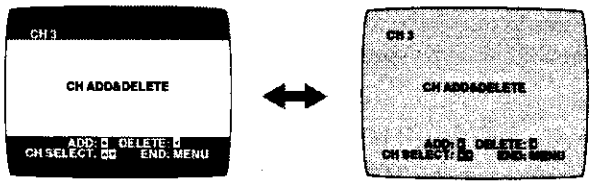
If you want to add a new channel between Channel 4 and Channel 6,

1 Press the MENU button ㊳ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㊱ to select "CH ADD&DELETE" then press the ENTER button ㊲.



3 Press the Cursor buttons (▲▼) ㊱ to select the desired programme position (example CH3) then press the Cursor button (▶) ㊱ to select "ADD".



Programme Position	Channel
1	2
2	4
3	6
4	8
5	10
6	12
7	–
8	–

Programme Position	Channel
1	2
2	4
3	–
4	6
5	8
6	10
7	12
8	–

- Adding a channel shifts the programme positions of Channel 6 to Channel 12 up, as shown in the list above.
- The list of the programme positions do not appear on the On Screen Display.

4 After adding, Tune the added channel. (See steps **3–5** in **Manual Tuning** on page 10.)

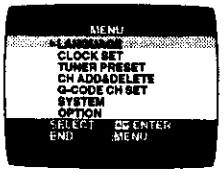
- Press the MENU button ㊳ twice and repeat steps **3–4** for each of the other programme positions.

5 Press the MENU button ㊳ four times to exit the On Screen Display.

Example:

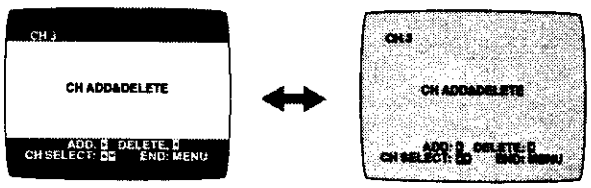
If you want to delete Channel 6,

1 Press the MENU button ㊳ to display the Main menu on the TV screen.



2 Press the Cursor buttons (▲▼) ㊱ to select "CH ADD&DELETE" then press the ENTER button ㊲.

3 Press the Cursor buttons (▲▼) ㊱ to select the desired programme position (example CH3) then press the Cursor button (◀) ㊱ to select "DELETE".



Programme Position	Channel
1	2
2	4
3	8
4	8
5	10
6	12
7	–
8	–

Programme Position	Channel
1	2
2	4
3	8
4	10
5	12
6	–
7	–
8	–

- Deleting a channel shifts the programme positions of Channel 8 to Channel 12 down, as shown in the list above.
- The list of the programme positions do not appear on the On Screen Display.
- Repeat step **3** for each of the other programme positions.

5 Press the MENU button ㊳ twice to exit the On Screen Display.

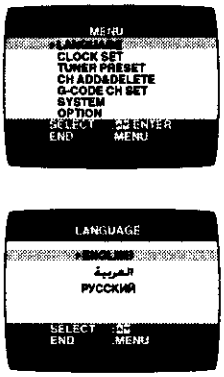
Language Setting of the On Screen Display

Select one of the three languages displayed: English, Arabic and Russian.

Preparations
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

Operations

On Screen Display



1 Press the MENU button ㊳ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㉟ to select "LANGUAGE" then press the ENTER button ㊲.

3 Press the Cursor buttons (▲▼) ㉟ to select the desired language.

4 Press the MENU button ㊳ twice to exit the On Screen Display.

Setting the Clock of Your VCR

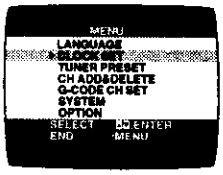
The clock will operate for at least 3 years in total after it has been set, - in the event of a power failure, it will operate on its backup system. After 3 years, it will only operate for 1 hour on its backup system.

Preparations
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

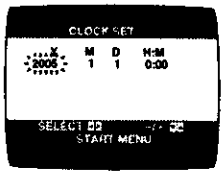
Example:
Date; 16 October, 2005
Time; 20:15

Operations

1 Press the MENU button ㊳ to display the Main menu on the TV screen.



2 Press the Cursor buttons (▲▼) ㉟ to select "CLOCK SET" then press the ENTER button ㊲.



3 Set each item by pressing the Cursor buttons (▲▼►) ㉟. Press the Cursor button (◄) ㉟ to return to the previous item.

At the set time (H:M) point:
- When it is kept pressed, the indication changes in 30 minute steps.
- There is no need to press the Cursor button (►) ㉟.

VCR display

4 **Press the MENU button ㊳.**
- The clock starts.

Time Reset Function

If the clock is less than two minutes slow or fast, it can easily be reset to the proper time.

1 Press the MENU button ㊳ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㉟ to select "CLOCK SET" then press the ENTER button ㊲.

3 When the current clock display on the VCR is between 11:58.00 and 12:01.59, press the MENU button ㊳ as soon as you hear the 12:00.00 signal. This resets the time to 12:00.00.

Preparations for G-Code Programming

Identification numbers must be set for G-Code programming. Proceed with the G-Code programming operation described on page 24, and the identification numbers of the TV stations concerned will be set automatically. This will allow G-Code programming to be undertaken without performing the operation described on this page. However, you can follow the setting procedure described below if you wish to set the identification numbers of all the TV stations prior to actual programming.

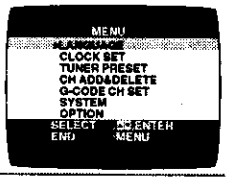
"Identification numbers" refer to the numbers used for identifying TV stations.
The programme position on the VCR receiving the TV station are set in these identification numbers.
Have a newspaper or magazine which lists today's local TV station programmes and G-Code numbers on hand.

Preparations

- Set the clock of the VCR. See page 12.
- Store TV broadcasts in your VCR. See page 9–11.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

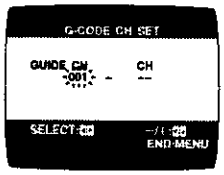
Operations

1 Press the MENU button ㊳ to display the Main menu on the TV screen.



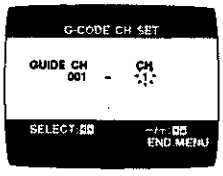
2 Press the Cursor buttons (▲▼) ㊱ to select "G-CODE CH SET" then press the ENTER button ㊲.

3 Press the Cursor buttons (▲▼) ㊱ to select the identification number **(GUIDE CH)** (001–255).



4 Press the Cursor buttons (◄ ►) ㊱ then press the Cursor buttons (▲▼) ㊱ to select the programme position (1–99, A1 or A2).

- To set the other TV stations, press the Cursor buttons (◄ ►) ㊱ then repeat steps **3**–**4**.



5 Press the MENU button ㊳ twice to exit the On Screen Display.

Note:

- To receive satellite stations, the satellite receiver must be connected on the VCR and programme position must be set depending on the type of connection.
  A1/A2: When the satellite receiver is connected to the Audio/Video input sockets (AV1/AV2).
  When the satellite receiver is connected by mean of the RF coaxial cable, set to a free programme position between 1 and 99.

Example:
(AUSTRALIA)

TV Station	Position Number	Identification Number (GUIDE CH)
ABC	2	002
ATN	7	007
TCN	9	009
TEN	10	010
SBS	28	028/001

Example:
(NEW ZEALAND)

TV Station	Identification Number (GUIDE CH)
TV ONE	001
CHANNEL 2	002
TV3	003
*SKY TV MOVIES	004
*SKY TV SPORTS	005
*SKY TV NEWS	006
*SKY ORANGE	007
*SKY DISCOVERY&TRACKSIDE	008
CTV	011

***Connection to the Sky decoder**
When the Sky decoder is connected to the Audio/Video input sockets:
Set to "A1" or "A2".
When the Sky decoder is connected by means of the RF coaxial cable:
Set to the programme position that the Sky decoder is tuned to.

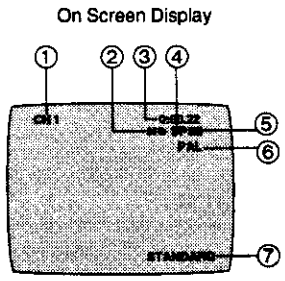
- When G-Code programming, turn on the Sky decoder and select the desired Sky channel.

Settings Using the On Screen Display

Preparations
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

To Make Various Indicators Appear On Screen Display

At a press of the OSD button ❺, the following indications appear on the TV screen.
- Press the OSD button ❺ again to make the on screen display disappear.



① Programme position

② Tape running display

Stop, Eject	
Rewind, Review	◀◀
Fast Forward, Cue	▶▶
Playback	▶
Still playback	❚❚
Recording	●
Recording pause	❚❚●
Slow playback	❚▶
Repeat playback	R ▶

③ Present time/Tape counter/Remaining tape time/Dew/Index Search/OTR indication/Play-Off Timer

Information	Display
Present time	17:24
Tape counter	−2:35.47
Remaining tape time	REMAIN 2:34
Dew	DEW
Index Search	S 01
OTR indication	OTR 60
Play-Off Timer	OFF⏲ 60

④ Tape speed indicator (SP/LP/EP)

⑤ Cassette-in indicator

⑥ Colour system indicator
Any selected colour TV system except "AUTO" appears on screen display. (See the **To Set the Colour TV System** on this page.)

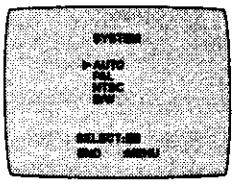
⑦ Picture mode indicator
At each press of the PICTURE MODE button ㉕, the selected picture mode is set and following picture mode indicators appear.

STANDARD:	For TV Programme recorded
DYNAMIC:	For Scenery, Sports
SOFT:	For Rental soft tape
CARTOON:	For Cartoon

Note:
- The on screen display may be disturbed or disappear during special playback.

Preparations
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

To Set the Colour TV System



1 Press the MENU button ㊳ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㊱ to select "SYSTEM" then press the ENTER button ㊲.

3 Press the Cursor buttons (▲▼) ㊱ to select "AUTO".
- The VCR automatically distinguishes between "PAL" or "NTSC" signals. If the picture lacks colour during AV external recording or playback, set to "PAL" or "NTSC".
- When you want to record or play back in black and white, set to "B/W".

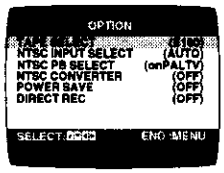
4 Press the MENU button ㊳ twice to exit the On Screen Display.

Option Setting

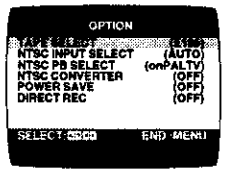
To Select the Corresponding Video Cassette Tape Length to Display the Approximate Remaining Tape Time (TAPE SELECT)

1 Press the MENU button ㊳ to display the Main menu on the TV screen.

2 Press the Cursor buttons (▲▼) ㊱ to select "OPTION" then press the ENTER button ㊲.



3 Press the Cursor buttons (▲▼) ㊱ to select "TAPE SELECT" then select the corresponding video cassette tape length by pressing the Cursor buttons (◄ ►) ㊱.



E180: For E30, -60, -90, -120, -150 and -180 tapes.
E195: For E195 tape.
E240: For E240 tape.
E260: For E260 and -300 tapes.

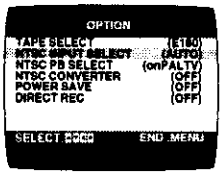
- The remaining tape time may not be displayed correctly depending on the tape used.

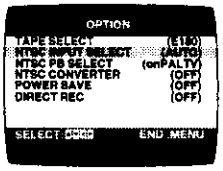
4 Press the MENU button ㊳ twice to exit the On Screen Display.

To Select the Colour TV System of the TV Used to Record NTSC Signals

Follow steps 1 to 2 of **TAPE SELECT**.

3 Press the Cursor buttons (▲▼) ㊱ to select "NTSC INPUT SELECT" then select "AUTO" by pressing the Cursor buttons (◄ ►) ㊱.
Allows NTSC "4.43" or "3.58" signals to be distinguished automatically.





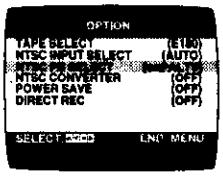
- If the tape has not recorded correctly, select 4.43 or 3.58.
  4.43: When recording NTSC 4.43 signals.
  3.58: When recording NTSC 3.58 signals.
  Some programmes on NTSC 3.58 system cannot be recorded correctly at this position.

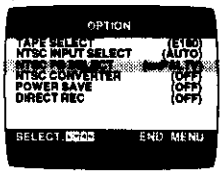
4 Press the MENU button ㊳ twice to exit the On Screen Display.

To Select the Colour TV System of the TV Used to Play Back a Tape Recording NTSC Signals

Follow steps 1 to 2 of **TAPE SELECT**.

3 Press the Cursor buttons (▲▼) ㊱ to select "NTSC PB SELECT" then select the desired position according to the colour TV system of the TV by pressing the Cursor buttons (◄ ►) ㊱.





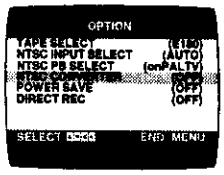
on PAL TV: For TVs that can receive PAL signals.
4.43: For TVs that can receive NTSC 4.43 signals.
3.58: For TVs that can receive NTSC 3.58 signals.

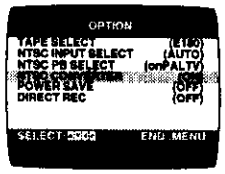
4 Press the MENU button ㊳ twice to exit the On Screen Display.

To Play a NTSC Game on PAL System TV

Follow steps 1 to 2 of **TAPE SELECT**.

3 Press the Cursor buttons (▲▼) ㊱ to select "NTSC CONVERTER" then select "ON" or "OFF" by pressing the Cursor buttons (◄ ►) ㊱.





OFF: Initially set at this position.
ON: PAL TV can receive signals from NTSC 3.58 signal source (e.g., NTSC game machines.) connected to the VCR main unit. However, when recording, this function does not work.

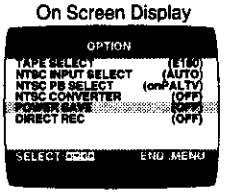
- When receiving NTSC 4.43 signals, this function does not work correctly.

4 Press the MENU button ㊳ twice to exit the On Screen Display.

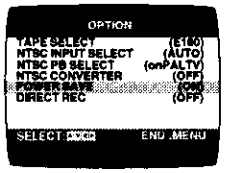
For Reduced the VCR's Power Consumption When the VCR Is Switched Off

Follow steps **1** to **2** of **TAPE SELECT**.

On Screen Display



3 Press the Cursor buttons (▲▼) ㊱ to select "POWER SAVE" then select "ON" or "OFF" by pressing the Cursor buttons (◄ ►) ㊱.



ON: This setting makes the display disappear when the VCR is off.
It will not operate in the Timer standby mode.
After recording all programmed data, the VCR will go into Power save mode.

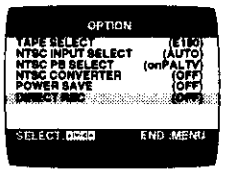
OFF: This setting does not conserve power when the VCR is off.

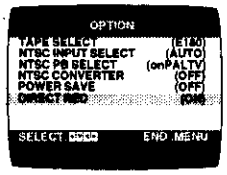
4 Press the MENU button ㊳ twice to exit the On Screen Display.

To Set to the Conditions for Direct Recording Function

Follow steps **1** to **2** of **TAPE SELECT**.

3 Press the Cursor buttons (▲▼) ㊱ to select "DIRECT REC" then select "ON" or "OFF" by pressing the Cursor buttons (◄ ►) ㊱.





OFF: Initially set at this position.

ON: This setting enables Direct Recording.
AV Input (A1) becomes exclusive channel for Direct Recording.
(See page 20.)

4 Press the MENU button ㊳ twice to exit the On Screen Display.

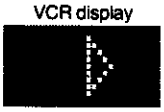
Playback

Preparations
- Confirm that the VCR is on.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Insert a recorded video cassette.

For Normal Playback:

Press the Play button ㉕.

VCR display



For Cue Playback:

During playback, tap the Fast Forward button ㉔.

- To return to normal playback, press the Play button ㉕.
- If you press and hold down the Fast Forward button ㉔, cue playback continues for as long as you keep the button pressed, and operation returns to normal playback when the button is released.

For Review Playback:

During playback, tap the Rewind button ⑧.

- To return to normal playback, press the Play button ㉕.
- If you press and hold down the Rewind button ⑧, review playback continues for as long as you keep the button pressed, and operation returns to normal playback when the button is released.

For Still Playback:

During playback, press the Pause/Slow button ⑦.

- To return to normal playback, press the Play button ㉕ or the Pause/Slow button ⑦.

For Slow Playback:

During playback, keep the Pause/Slow button ⑦ pressed for 2 seconds or more.

- To return to normal playback, press the Play button ㉕.

Fast-forwarding or Rewinding the Tape:

To fast-forward the tape:
Press the Fast Forward button ㉔ in the stop mode.

To rewind the tape:
Press the Rewind button ⑧ in the stop mode.

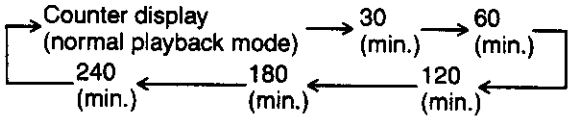
- To stop fast-forwarding or rewinding, press the Stop button ⑨.
- To briefly view the picture during fast-forwarding or rewinding, press and hold down the corresponding button.

To Stop Playback

Press the Stop button ⑨.

To Stop Playback Automatically (Playback Off Timer Function)

Whenever you are playing back and wish to stop the tape automatically, simply set the playback duration by pressing the PLAY OFF TIMER ◳ button ㊷ on the VCR repeatedly. The duration indicated on the VCR display changes by pressing PLAY OFF TIMER ◳ button ㊷ as follows.



Press PLAY OFF TIMER ◳ button ㊷ on the VCR during playback.

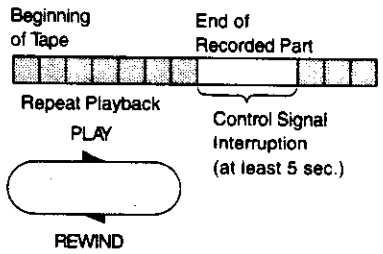
- The VCR will automatically switch off when Play-Off Timer is completed. To turn the VCR on again, press the POWER button ❶.

Notes:
- The Play-Off Timer function works during normal playback.
- When the tape reaches its end during Play-Off Timer, the tape will be rewound to the start and the VCR will turn itself off.
- Repeat Playback function does not work during Play-Off Timer.

To Stop Midway:
Press the Stop button ⑨.

To Play Back a Recorded Part Repeatedly

Press the REPEAT button ⑩.
The "R ▶" indication appears on the On Screen Display.



- Repeat Playback function does not work during Play-Off Timer.

To Cancel the Repeat Playback Mode:
Press the Stop button ⑨.

NTSC Playback

Tapes recorded in the NTSC system can be played back with this VCR via a PAL system TV.

- Select "NTSC PB SELECT" from the on screen display according to the colour TV system of the TV. (See page 15.)

  on PAL TV: For TVs that can receive PAL signals.
  4.43: For TVs that can receive NTSC 4.43 signals.
  3.58: For TVs that can receive NTSC 3.58 signals.

- NTSC 3.58 recording requires "NTSC INPUT SELECT" to be in the AUTO or 3.58 position (see page 15), however if "NTSC INPUT SELECT" is in this position when recording a NTSC 3.58 signal, no colour is available for the PAL TV. Once the recording is completed, you then need to select "on PAL TV" to view the recording in colour on PAL TV.

  When playback the PAL tapes:
  You do not need to set "NTSC PB SELECT".

Note for only NTSC Playback on PAL system TV

This function is designed to allow only the playback of tapes recorded by NTSC signals on a PAL system TV. The NTSC signal is not completely converted to a PAL signal. For this reason, images played back by this function cannot be recorded correctly on other VCRs.

Notes:

- Audio reproduction of linear (conventionally recorded) tapes will be monaural when played back on the FM Hi-Fi video recorders.
- Cue, review or slow playback will be automatically cancelled after 10 minutes, and still playback after 5 minutes.
- On some TVs, the playback picture may roll up or down; adjust this using the V-HOLD control on the TV. TVs not equipped with a V-HOLD control cannot correct this condition. The playback picture may shrink vertically, and black bars may appear both on the top and bottom of the screen. This does not indicate a malfunction.
- In Cue and Review playback, noise bars and distortions may occur on the screen. However, this is not a malfunction.
- During cue, review, still or slow playback, the picture may not be in colour. Alternatively, the top of the TV screen may be distorted.
- During playback function other than normal playback, horizontal noise bars may appear in the picture, the colour of the picture may be unstable, or the picture may be otherwise distorted.
- When you play back a tape recorded in the LP mode, the picture may be in black and white.
- When you play back a tape recorded in the EP mode, the picture and the sound may be unstable. However, these are not malfunctions.
- When playing back a tape which was recorded on another VCR, it may be necessary to adjust tracking control. In some cases the picture quality may still be inferior. This is due to format constraints.
- Depending on the TV set used, the playback picture may roll up or down during special playback (Pause, Cue, Review, or Slow playback mode). However, this is not an indication of a malfunction.

Convenient Automatic Functions

VCR Auto Power On

When you insert a video cassette, the VCR switches on automatically.

Auto Playback Start

When you insert a video cassette with a broken erasure prevention tab, playback start automatically without having to press the Play button ㉕.

VCR-off Playback

When the VCR is off, an inserted cassette can be played back by pressing the Play button ㉕.

Auto Rewind

When the tape reaches the end, the VCR automatically rewinds it to the beginning.

- This function does not work during timer recording and OTR.

Automatic Switching Off and Ejection

When the VCR is switched off, an inserted cassette can be ejected simply by pressing the EJECT button ㊶. The VCR will eject the cassette and automatically turn itself off again.

VCR-off Search

When the VCR is off, the VCR starts intro-jet scan of an inserted cassette by pressing the SEARCH button ④.

To Play back in the Desired Picture Quality (Picture Mode)

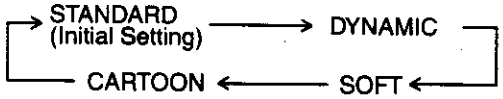
This function reproduces optimum playback picture from various kind of recorded tapes and contents.

Press the PICTURE MODE button ㉖ and select the corresponding Picture Mode as follows.

Example:

STANDARD	Normal	TV Programme recorded
DYNAMIC	Clear & Vivid	Scenery, Sports
SOFT	Mild	Rental soft tape
CARTOON	Delicate	Cartoon

- Pressing the PICTURE MODE button ㉖ once makes the On Screen Display appear; after that, pressing it repeatedly changes the indication in the following order:



Manual Recording

Preparations
- Confirm that the VCR is on.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Set the VCR/TV switch ㉞ to "VCR".

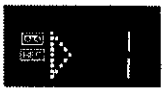
Operations

1 **Insert a video cassette with an intact erasure prevention tab.**
- If it has already been inserted, press the POWER button ❶ to turn the VCR on.

2 **Select the TV station using the Channel button ㉜.**
- It is also possible to select by pressing the Numeric buttons ❷.

VCR display

3 **Press the REC (REC/OTR) button ㉗ (㊽) to start recording.**



4 **Press the Stop button ❾ to stop recording.**

To Select the Desired Tape Speed

Press the SPEED button ㉑ before recording.
- SP provides standard recording time, optimum picture and sound quality.
  LP provides doubled recording time with slightly reduced picture and sound quality.
  EP provides tripled recording time with slightly reduced picture and sound quality.
  When you play back a tape recorded in the EP mode, the monaural sound may be unstable.

When you start the recording the EP mode, "EP" indication on the VCR display flashes for about 8 seconds.

To Pause Recording

Press the Pause/Slow button ❼ during recording.
Press it again to continue recording.

To View One TV Programme while Recording Another TV Programme

After pressing the REC button ㉗ to start recording, select on your TV the programme position of the TV programme that you want to view.

To Display the Approximate Remaining Tape Time

The remaining tape time can be displayed in the VCR display.

1 Select "TAPE SELECT" from the on screen display and select the corresponding video cassette tape length. See page 15.

2 Press the DISPLAY button ㉚ repeatedly until the Remaining Tape Time appears on the VCR display.

- Pressing the DISPLAY button ㉚ once makes the VCR display appear; after that, pressing it repeatedly changes the indication in the following order:

For certain cassettes, the remaining tape time may not be displayed correctly.

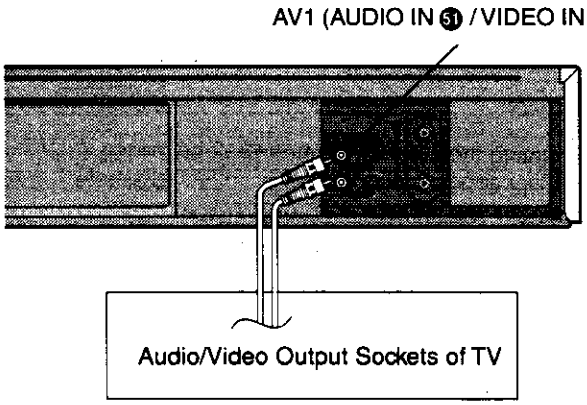
Notes:
- When playing back a cassette recorded in the LP or EP mode, some picture and sound distortion may occur. However, this is not a malfunction.
- The recording pause mode will be automatically cancelled after 5 minutes and return to the stop mode.
- The tape recorded in the EP mode on this VCR cannot be played back on the other VCR without EP mode function.
- On the other VCR (even with EP mode function), when you play back the tape recorded in the EP mode, the picture and the sound may be distorted. However, this is not a malfunction.
- When a video cassette with a broken off erasure prevention tab is inserted, the "㊽" indication will flash to indicate that recording is not possible even if the REC (REC/OTR) button ㉗ (㊽) is pressed.

To Immediately Record the Same Scenes of Programme That You Are Viewing on the TV (Direct Recording)

This function allows you to immediately start recording the same scenes of programme that you are viewing on the TV.

Conditions for correct operation of the Direct TV Recording function:

- Set "DIRECT REC" to "ON". (See page 16.)
- The VCR must be connected to the TV's Audio/Video output socket via Audio/Video cable as shown.



To Perform Direct Recording:

1 Insert a video cassette with an intact erasure prevention tab.

2 Press the DIRECT REC button ⑥.

- Recording the scenes of the programme that you are viewing on the TV starts.
- In some cases, it may not be possible to change the programme position on the TV during Direct Recording.

When viewing or displaying the programme from your TV:

- Do not press the AV button ③, Numeric buttons ② or Channel button ③2 during Direct Recording, otherwise the recording may not be performed correctly.

When viewing or displaying the programme from your VCR:

- It is possible to select and view any other TV programme from your TV while the Direct Recording continues.
  After pressing the DIRECT REC button ⑥ to start recording, select on your TV the programme position of the TV programme that you want to view.

3 Press the Stop button ⑨ to stop recording.

To Select the Recording Duration and Perform Timer Recording (OTR Recording)

OTR means One-Touch Recording and is called this way, because you can start recording and select the recording duration by repeatedly pressing a single button. This is very convenient, for example when you want to start recording immediately but need to go out or want to go to bed.
After the selected recording duration has elapsed, recording stops and the VCR automatically switches off.

To Perform OTR Recording:

1 Display the VCR picture on the TV.

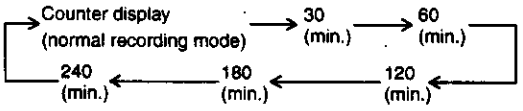
2 Insert a video cassette with an intact erasure prevention tab.

3 Press the Channel button ③2 to select the programme position on which the TV programme to be recorded will be broadcast.

4 Press the REC/OTR button ④8 to start recording.

5 Press the REC/OTR button ④8 repeatedly to select the desired recording duration.

- Every time you press this button, the recording duration indicated in the VCR display changes in the following order.
- For example, if you select "30", the VCR records a programme from that moment on for 30 minutes.



To Stop the OTR Recording Before the End:
Press the Stop button ⑨.

Notes:

- The OTR function works during normal recording.
- When the tape reaches its end during OTR, the VCR will turn itself off.

Timer Recording

4-Key Programming

Up to 8 timer programmes, including weekly and daily programmes, can be recorded up to one month in advance by setting the timer.

Preparations

- Confirm that the VCR is on.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Insert a video cassette with an intact erasure prevention tab.
- Check that the clock is set to the correct time. If it has not been set, refer to page 12.

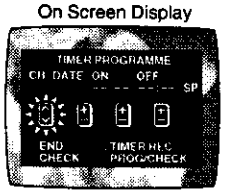
Example:

Programme position (channel); 2
Date; 27 October
Starting time; 20:02
Ending time; 21:30
Tape speed; LP
(Present date; 16 October)

Operations

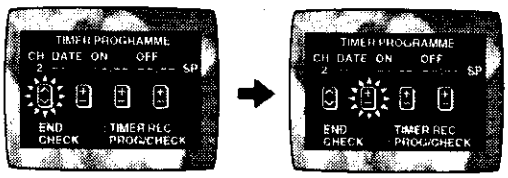
1 **Press the PROG./CHECK button ⑫ to display the menu for timer programme on the TV screen.**

On Screen Display



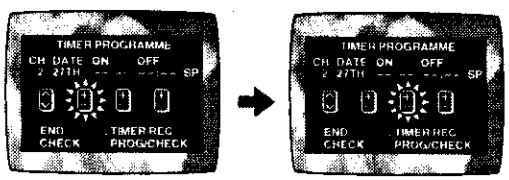
2 **Press the CH button ⑩ to select the programme position of the desired TV station.**

- Every time you select the programme position, the background changes.



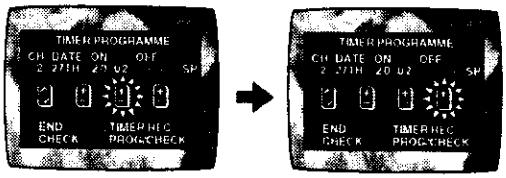
- The next item will flash after about 2 seconds.

3 **Press the DATE button ⑪ to set the date on which the TV programme will be broadcast.**

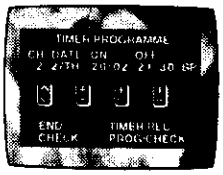


4 **Press the ON button ㉓ to set the starting time.**

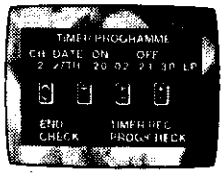
- When it is kept pressed, the indication changes in 30 minute intervals.



5 **Press the OFF button ㉒ to set the ending time.**



6 **Press the SPEED button ㉑ to set the desired tape speed.**



- SP provides standard recording time, optimum picture and sound quality.
  LP provides double recording time with slightly reduced picture and sound quality.
  EP provides triple recording time with slightly reduced picture and sound quality.
  Regarding the "A" indication, refer to page 22.
  When you play back a tape recorded in the EP mode, the monaural sound may be unstable.

7 **Press the TIMER REC button ⑳ to switch the VCR over to the timer recording standby mode.**

- The "PROGRAMME IS COMPLETE." message appears.
- The VCR will be set to the timer recording stanby mode after about 1 minute if the TIMER REC button ⑳ is not pressed.

To Suspend the Timer Recording Standby Mode

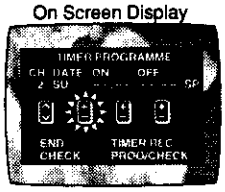
When you want to use the VCR for playback, normal recording or some other operation before the programmed timer recording will be performed, you can temporarily suspend the timer recording standby mode by pressing the TIMER REC button ⑳ so that the "⏲" indication on the VCR display disappears.

However, after you have finished using the VCR, be sure to reactivate the timer recording standby mode by pressing the TIMER REC button ⑳ again otherwise the programmed timer recording will not be performed.

Weekly Timer Recording

In step **3** of **4-Key Programming**, select the desired day by pressing the DATE – button ⓫.
For example, SU (Sunday)

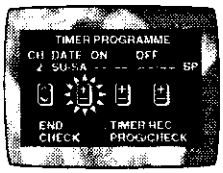
On Screen Display



(SU=Sunday, MO=Monday, TU=Tuesday, WE=Wednesday, TH=Thursday, FR=Friday, SA=Saturday)

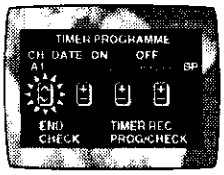
Daily Timer Recording

For this timer function, several groups of days can be selected.
Ⓐ Daily recording from Monday to Friday (MO–FR)
Ⓑ Daily recording from Monday to Saturday (MO–SA)
Ⓒ Daily recording from Sunday to Saturday (SU–SA)
In step **3** of **4-Key Programming**, select the desired days by pressing the DATE – button ⓫.
For example, Ⓒ



Timer Recording from an External Signal Source

If timer recording is performed by a unit connected to the Audio/Video input sockets, select the A1 or A2 indicator in step **2** of **4-Key Programming** for the programme position.



Setting other Programmes in Succession

Repeat steps **1**–**7** of **4-Key Programming**.

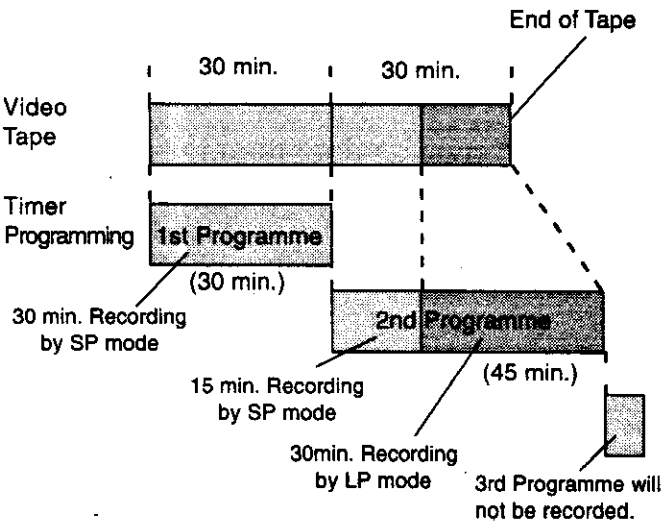
Programming a Timer Recording of a TV Programme Until its End (Tape Speed Auto Change Function)

If the VCR determines that the remaining tape time is insufficient to record the programme to its end during a timer recording performed in the SP mode, this function automatically changes the tape speed to ensure that the whole programme will be recorded.

The tape speed will change as follows.
NTSC system: SP → EP
PAL system: SP → LP
- This function cannot change the recording speed to the EP mode for PAL system.

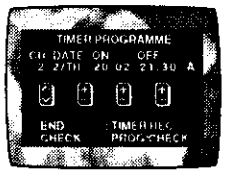
Depending on the remaining tape length, recording may be performed in the LP (EP) mode from the start. However, if the remaining tape time is still not sufficient in this case, the programme cannot be recorded to the end.

Example of PAL system (Remaining Tape Time 60 min.):



- The tape length must be set correctly. (See page 15.)
- Some tapes may not work correctly.

To Activate the Tape Speed Auto Change Function:
Press the SPEED button ㉑ to select "A".



- Every time you press the SPEED button ㉑, the indication changes in the following order:

NTSC system: → SP → EP → A →

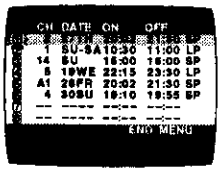
PAL system: → SP → LP → EP → A →

Checking a Timer Programme

- The VCR must be turned on, or in timer recording standby mode.
- Confirm that the TV is on and the VCR viewing channel is selected.

1 Press the PROG./CHECK button ⑫ twice.

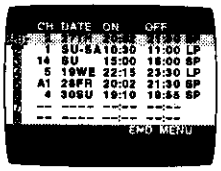
2 Press the MENU button ㊳ to exit the On Screen Display.



Cancelling a Timer Programme

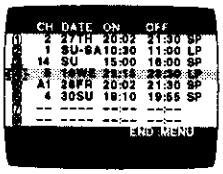
- The VCR must be turned on, or in timer recording standby mode.
- Confirm that the TV is on and the VCR viewing channel is selected.

1 Press the PROG./CHECK button ⑫ twice.

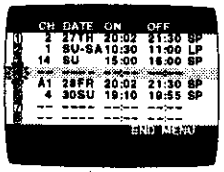


2 Press the PROG./CHECK button ⑫ repeatedly until the desired timer programme number flashes on and off.

3 Press the CANCEL button ⑰.



4 Press the MENU button ㊳ to exit the On Screen Display.



Note:

- If timer recording is not completed (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 A.M the next day.
  However, if the timer recording function is activated at that time, the programmed timer recording data will not be cancelled.

G-Code Programming

Programming is now easier than ever; simply enter the G-Code number found in the programme scheduling pages of newspapers and magazines.
G-Code numbers are numbers assigned to programmes listed in the TV programme schedule found in newspapers and TV guides. When these numbers are entered, the numbers are converted to actual programming.

Preparations

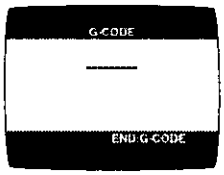
- Confirm that the VCR is on.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Insert a video cassette with an intact erasure prevention tab.
- Set the VCR/TV switch ㉞ to "VCR".
- Check that the clock is set to the correct time. If it has not been set, refer to page 12.

Example:
Programming a timer recording of a TV programme with the G-Code number 123456

Operations

1 **Press the G-CODE button ㉙ to display the menu for entering the G-Code number on the TV.**

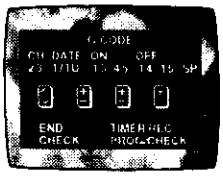
On Screen Display



2 **Press the Numeric buttons ❷ to enter the G-Code number.**

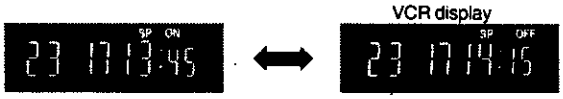
- It is also possible to check the number with VCR display without appearing the On Screen Display.
- If you have entered a wrong number, press the CANCEL button ⓱ then enter the proper number. An alternative method is to press the Cursor button (◀) ㉟ and then enter the prober number

3 **Press the ENTER button ㉗.**

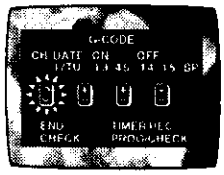


- The entered programme appears on the display.
- The starting time and the ending time appears alternately each 5 seconds on the VCR display.

VCR display



- Confirm that the number corresponds to the right programme. If the display looks like this and ◷ on the VCR display flashes on and off: select the desired programme position using the CH button ⓾, then press the ENTER button ㉗.



- To make any corrections, use the DATE button ⓫, the ON button ㉓, the OFF button ㉒ and the SPEED button ㉑ the same way as described on page 21.

4 **Press the TIMER REC button ⑳ to switch the VCR over to the timer recording standby mode.**

- Check that "◷" is lit on the VCR display.
  If it is flashing, check the timer recording details again. (See page 23.)

Notes:

- When the G-Code number is used for programming, the recording time may be slightly longer than the actual programme time.
- Repeat steps **2** and **3** if "PROGRAMME IS INCOMPLETE." appears.
- When programming two or more programmes, repeat steps **1**–**4**.
- The procedures for checking and cancelling a timer programme are the same as on page 23.

To Suspend the Timer Recording Standby Mode

See the page 21.

Search Functions

Searching Timer-Recorded Programmes (Programme List Search)

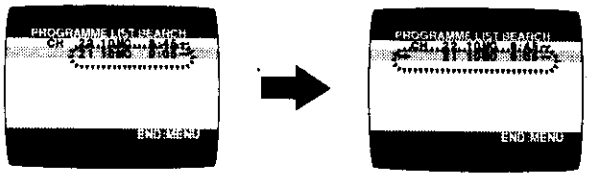
Searching Using the Programme List Search Function
When timer programmes are recorded by this VCR, the VCR stores the programming details, and the programmes are selected and searched by the programme list search function.

Preparations
- Confirm that the VCR is on.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Release the standby status for timer programme recording.
- Set the VCR/TV switch ㉔ to "VCR".

Operations

Displaying the PROGRAMME LIST SEARCH Screen

Press the SEARCH button ❹.



- The details of the timer-recorded programmes on this video cassette are displayed on the PROGRAMME LIST SEARCH screen in the sequence in which the programmes were recorded.
- When no further operations are undertaken for about 3 or more seconds, the search for the last timer-recorded programme is commenced.
- Upon completion of the search, playback starts from the searched point on the tape.

Searching other programmes

Press the SEARCH button ❹ several times to select the programme which is to be searched.
- When the SEARCH button ❹ is pressed once, the timer-recorded programme which was recorded last is selected. Each time the SEARCH button ❹ is subsequently pressed, the programme before (or above on the list shown on the screen) is selected.
- If the SEARCH button ❹ is pressed again when the top programme is selected, the bottom programme will be selected.
- Another programme can be selected by pressing the SEARCH button ❹ even after a search has been commenced.

To stop the search at any time

Press the MENU button ㉘ and clear the PROGRAMME LIST SEARCH screen.

Notes:
- This function does not work during timer recording standby mode.
- This function works only for video cassettes containing timer-recorded programmes.
- Since this function works only for the currently loaded video cassette, **all the programming list details will be cleared when the video cassette is ejected or replaced with another one.** At times like this, use the VHS index search system or the intro-jet scan function. (See page 26.)
- The programme list search function may not work properly when recorded programmes run for 15 minutes or less.
- In the EP mode, a programme of at least 25 minutes must be recorded on the tape.
- Ensure that "TAPE SELECT" for "OPTION" on the "MENU" is set correctly, as otherwise, this function will not operate correctly. (See page 15.)
- When the SEARCH buttons ❹ is pressed during playback, playback stops immediately, and the PROGRAMME LIST SEARCH screen appears.
- Up to 8 programmes can be displayed on the PROGRAMME LIST SEARCH screen. If the timer is used to record more than 9 programmes, the oldest programme will be deleted on the PROGRAMME LIST SEARCH screen, and a new timer-recorded programme will be entered and displayed.
- This function may not work properly depending on the tape position when you press the SEARCH button ❹.
- This function may not work properly when for example, you try to record over a programme with another programme that is timer-recorded on the same portion of the tape.

To Find the Beginning of Each Recording (VHS Index Search System)

This VCR automatically records special index signals on the tape every time a recording is started. The Index search function makes use of these index signals to let you find the beginning of a desired programme quickly and easily.

Index signals are automatically recorded in the following cases:

- When you start a recording by pressing the REC button ㉗, REC/OTR button ㊽, or DIRECT REC button ⑥.
- When a timer recording starts.
- When you press the REC button ㉗ on the remote control during recording.

Conditions for correct operation of the Index search function:

- The VCR must be in the stop mode or in the playback mode.
- Each programme recorded on the tape must be at least 5 minutes long.

Preparations

- Display the VCR picture on the TV.
- Insert a recorded video cassette.

Operation

1 Press the INDEX button ㉘ (that corresponds to the direction from the current tape position in which the desired programme is located on the tape) to start the index search.
For example, if you want to search for the 2nd recorded programme in forward direction, press the INDEX ▶▶I button ㉘ twice.

VCR display

- The VCR fast-forwards or rewinds the tape and searches for the specified index signal (the beginning of the desired recorded programme).
When it has been found, playback starts automatically.

To Cancel the Index Search or to Stop Playback:
Press the Stop button ⑨.

Notes:

- Searching in either direction is possible up to the 20th index signal.
- If you press either of the INDEX button ㉘ too many times, simply press the other INDEX button ㉘ (indicating the opposite direction) to correct it. In this way, you can reduce the displayed figure down to 1.
- The figure on the VCR display decreases by 1 every time an index signal is located.

Searching while Checking the Video Cassette Contents (Intro-Jet Scan)

This VCR automatically records special index signals on the tape every time a recording starts. The Intro-Jet Scan function makes use of these index signals to play back the beginning of each programme recorded on the cassette one after another at high speed. This lets you quickly and easily check the contents of a cassette and find a desired programme.

Index signals are automatically recorded in the following cases:

- When you start a recording by pressing the REC button ㉗, REC/OTR button ㊽, or DIRECT REC button ⑥.
- When a timer recording starts.
- When you press the REC button ㉗ on the remote control during recording.

Conditions for correct operation of the Intro-Jet Scan function:

- The cassette must have been ejected after the timer recordings were performed.
- VCR must be switched on, be in the playback mode or be in the standby mode.
- Each programme recorded on the tape must be at least 15 minutes long.

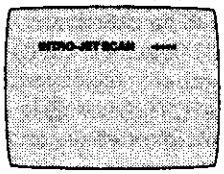
Preparations

- Display the VCR picture on the TV.
- Insert a recorded video cassette.

Operations

1 Press the SEARCH button ④ to start the Intro-Jet Scan.
- After rewinding the tape to the beginning, the VCR plays it back at high speed for approximately 10 seconds. It then fast-forwards the tape to the next tape position marked by an index signal (beginning of a programme), and every time an index signal is found, the VCR switches over to high-speed playback (Cue) for about 10 seconds.

On Screen Display



2 When you have found the programme that you want to view, press the Play button ㊷ to start normal playback.

To Cancel the Intro-Jet Scan or to Stop Playback:
Press the Stop button ⑨.

Note:

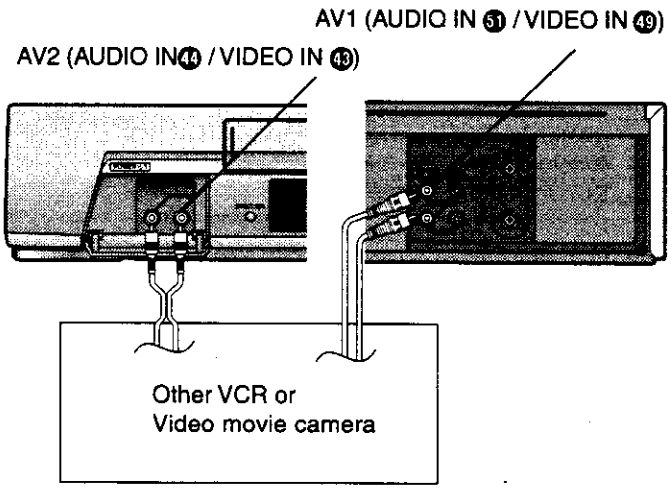
- If you press the SEARCH button ④ after a timer recording has finished, but before ejecting that cassette, the Programme List Search (for details, see page 25) will be activated instead of the Intro-Jet Scan.

Making a Copy

Copying

This function can be used to make up an edited tape from other recordings or video sources.
A new scene can be added to the end of previous one.

Recording VCR



Preparations

- Connect a video movie camera or another VCR to this VCR as shown.
- Display the VCR picture on the TV.
- Insert the cassette on which the copying is to be performed, and make sure that its erasure prevention tab is not broken out.
- Select the audio source required by pressing the INPUT SELECT button ③⑧ to set A1 or A2.

  A1: Through the AV1 (AUDIO IN/VIDEO IN) sockets.
  A2: Through the AV2 (AUDIO IN/VIDEO IN) sockets on front panel.

Operations

1 Press the Play button ④② to start playback.

2 At the point where you want to join a new scene, press the Pause/Slow button ⑦ to put it in the still playback mode.

3 Press the REC button ②⑦ to put it in the recording pause mode.

4 Start playback on the source unit and search for the point from which you want to record (copy) onto this VCR.

5 When that point is reached, press the Pause/Slow button ⑦ again to start recording the new picture and sound from the playback unit.

6 To record (copy) additional scenes, press the Pause/Slow button ⑦ to put this VCR in the recording pause mode and then perform above steps **4** and **5** again.

7 At the point where you want to stop recording, press the Stop button ⑨ to finish recording.

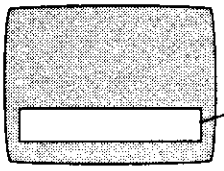
Notes:

- If you leave the VCR in the recording pause mode for more than 5 minutes in step **3** or **6**, the VCR automatically switches over to the stop mode to protect the video heads.
- If "DIRECT REC" is set to "ON", connect with AV2 sockets and select A2.

Before Requesting Service

Before requesting service, check the following points again.

Message of On Screen Display



On screen display messages are displayed.

The error message is indicated in brackets [ ].

[PLEASE PUT IN A VIDEO CASSETTE.]

☞ REC/OTR button ㊽ (REC button ㉗), TIMER REC button ⑳ or DIRECT REC button ❻ has been pressed without a video cassette inserted.
Insert a video cassette.

[PLEASE STOP THE TAPE.]

☞ "TUNER PRESET" has been selected during playback.
Stop the tape.

[PLEASE SET THE CLOCK.]

☞ TIMER REC button ⑳, G-CODE button ㉙ or PROG./CHECK button ⑫ has been pressed when the clock is not set.
Set the clock.

[PLEASE USE A CASSETTE WITH TAB.]

☞ REC/OTR button ㊽ (REC button ㉗), TIMER REC button ⑳ or DIRECT REC button ❻ has been pressed without a video cassette with an intact erasure prevention tab.
Use a video cassette with an intact erasure prevention tab.

[NO TIMER RECORDING HAS BEEN SET.]

☞ TIMER REC button ⑳ has been pressed with no timer programmes.
Set timer recording.

[VCR IS IN THE TIMER STANDBY MODE.]

☞ POWER button ❶ has been pressed during the timer standby mode.
Press the TIMER REC button ⑳ to release the VCR from the timer standby mode.

[DEW FORMED IN THE VCR.]

☞ Dew has formed.
Wait until the message disappears.

The VCR will not operate correctly

The symptom description is indicated in quotations " ".

"The VCR display is not illuminated."

☞ The mains lead has not been connected.
Connect the mains lead to the mains supply.

☞ Power save setting is "ON". Set "POWER SAVE" to "OFF".
See page 16.

"The VCR display is illuminated but the VCR will not operate."

☞ The VCR is in the timer mode.
Press the TIMER REC button ⑳ to operate the VCR manually.

☞ Safety devices are operating.
Disconnect the mains lead and wait for 1 minute.
Reconnect the mains supply and check functions.

☞ Dew may have formed.
Do not operate the VCR for 1 hour.

"An unknown language appears on the TV screen."

☞ The language setting has been set to an unknown language.
Select the desired language. See page 12.

Playback will not operate correctly

The symptom description is indicated in quotation " ".

"The picture is noisy or is not in color.
Horizontal bars or lines run down the screen."

☞ Tracking is not correct.
Adjust the tracking. See page 29.

☞ The TV has not been tuned to the VCR.
Tune the TV to the VCR. See page 8 or 9.

☞ The video heads are clogged or worn.
Consult Panasonic Customer Care Centre for advice on 132600. (Australia only)

☞ The playback picture is distorted when using an E300 type video cassette that was recorded in the LP or EP mode.
We recommend that you use video cassettes other than type E300.

Recording will not operate correctly

The symptom description is indicated in quotations " ".

"The [SET] indication flashes whenever recording is attempted."

☞ The erasure prevention tab on the video cassette has been broken off.
Use a tape with an intact erasure prevention tab, or cover the tab hole with adhesive tape, if the original recording is no longer required.

"The picture is recorded with noise or a blank screen."

☞ The aerial or aerial cable is defective.
Check the aerial connection to the VCR. See pages 7.
Check your normal TV picture. If there is no picture, check your aerial.

☞ The VCR is not correctly tuned.
Retune the VCR. See pages 8–11.

☞ A1 or A2 has been selected.
Select the required TV program.

"Timer recording cannot be performed."

☞ The clock or calendar has been incorrectly set.
Check the clock and calendar. Set them to the present time. (Note that this is a 24-hour clock.)
See page 12.

☞ The recording starting or ending time setting is incorrect.
Set the recording starting and ending time correctly.

☞ The VCR has not been set for timer recording.
Press the TIMER REC button ⑳ after programming for timer recording.

"AV external recordings cannot be made."

☞ A1 or A2 has not been selected.
Select A1 or A2 by pressing the INPUT SELECT button ㉝.

☞ External AV connections are incorrect.
Check that the connections for external video and audio sources are correct. See page 27.

☞ A1 has not been selected.
"DIRECT REC" can be set to "ON".
Set "DIRECT REC" to "OFF".
See page 16.

The remote controller will not operate correctly

The symptom description is indicated in quotation " ".

"The remote controller does not operate correctly."

☞ The remote controller transmitter beam is not reaching the VCR.
Ensure that the remote controller is being pointed at the VCR and that the transmitter beam is not obstructed.

☞ The distance is too far.
Use the remote controller within 7 m of the VCR.

☞ The batteries are exhausted.
Replace the batteries. Note the precautions for replacement on page 5.

☞ The batteries are incorrectly fitted with (+/−) reversed.
Fit the batteries correctly as shown on page 5.

Adjusting the Playback Picture

Under normal conditions, the VCR automatically adjusts the playback picture for optimum quality. However, in some cases it may be necessary to adjust it manually.

If the Picture Contains Noise Bars and It Is Not Clear to See (Tracking adjustment):
If noise bars appear during normal playback, slow playback or still playback, follow the operations below.

During normal or slow playback, press the Channel button ㉜ ∨ (−) or ∧ (+) until the bars noise disappear.
- If the noise bars appear during still playback, switch the VCR over to the slow playback mode and then adjust the tracking as explained above.

TV screen

Playback picture containing noise bars

To Return to Auto Tracking:
Press the Channel buttons ㉜ ∨ (−) and ∧ (+) simultaneously.

If the Still Picture Scrolls Up or Down (V-Lock Adjustment):
If the still picture scrolls up or down, perform the following operation.

During still playback, keep the Channel button ㉜ ∨ (−) or ∧ (+) pressed until the picture stops scrolling.

Precautions:
- With certain TV models and tapes, it may not be possible to adjust the tracking.
- If you play back a cassette that was recorded on another VCR, the picture quality may be inferior and it may be necessary to adjust the tracking. Also, on some TVs, the picture may scroll up and down in the special playback functions.
  However, these are not malfunctions.

Usage Precautions

Please read these precautions before you operate this VCR.

Avoid Sudden Changes in Temperature

If the VCR is suddenly moved from a cold to a warm place, dew may form on the tape and inside the VCR. In this case, the "d" dew indicator will flash on and off and the VCR will not operate.

Humidity and Dust

Avoid places where there is high humidity or much dust, which may cause damage to internal parts.

Do Not Obstruct the Ventilation Holes

The ventilation holes prevent abnormal increases in temperature. Do not block or cover these holes. Avoid covering the holes with soft materials such as cloth or paper.

Avoid High Temperature

Keep the VCR away from extreme heat sources such as direct sunlight, heating radiators, or closed automobiles.

Avoid Magnets or Magnetized objects

Never bring a magnet or magnetized object near the VCR as it will adversely affect its performance of the VCR.
Keep the VCR away from other equipments as much as possible when using it, avoid any adverse effect on performance for both the VCR and the equipment.

Do Not Place Fingers or Other Objects Inside

Do not attempt to disassemble the VCR. Touching internal parts of this VCR is dangerous, and may cause it serious damage. There are no user serviceable parts inside.

Avoid Water

Keep the VCR away from flower vases, tubs, sinks, etc. If liquids are spilled into the VCR, serious damage could occur. If you spill any liquid into the VCR, consult qualified service personnel.

Lightning

To avoid damage by lightning, disconnect the aerial plug from the VCR.

Cleaning the VCR

Wipe the VCR with a clean, dry cloth. Never use cleaning fluid or other chemicals. Do not use compressed air to remove any dust.

Stacking

Place the VCR in a horizontal position, and do not place anything heavy on it.

If Dew Forms in the VCR

Dew may form in the VCR If:

- The VCR is in a room where the heater has just been turned on.
- The VCR is in a room with steam or high humidity.
- The VCR is brought from cold surroundings into a well-heated room.
- The VCR is suddenly brought from cool surroundings, such as an air-conditioned room or car, to a place which is hot and humid.

When dew forms in the VCR, the "d" dew indicator on the display flashes on and off and all the function buttons are made non-operational to protect the tape and the video head. When the dew indicator flashes, wait until this indicator disappears.

- If dew forms inside the VCR while the VCR is off, it will turn on automatically and the dew indicator will flash on and off. As soon as the dew disappears, the VCR will turn itself off again.

Dirt on the video heads

If the video heads get dirty, pictures will not be recorded or played back clearly.
(See the following conditions.)

Normal picture **Small amount of dirt** **Large amount of dirt**

If this happens, insert and eject a cassette 5–10 times successively to remove the dirt from the video heads.
If the problem still persists after performing above, contact a service personnel to request assistance.

Head cleaning by service agents is not covered by warranty.

Specifications

NV-SJ400A

Power Source:	220–240 V AC 50/60 Hz
Power Consumption:	16 W

Video Recording System:	2 rotary heads, helical scanning system					
Video Heads:	4 heads					
Tape Speed:	PAL SP;	23.39 mm/s	LP;	11.7 mm/s	EP;	7.8mm/s
	NTSC SP;	33.3 mm/s	EP;	11.1 mm/s		
Tape Format:	VHS tape					
Record/Playback Time:	PAL SP; 240 min with NV-E240					
	PAL LP; 480 min with NV-E240					
	PAL EP; 720 min with NV-E240					
FF/REW Time:	approx. 60 s with NV-E180					

VIDEO

Television System:	CCIR; 625 lines, 50 fields, PAL colour signal		
	EIA; 525 lines, 60 fields, NTSC colour signal		
Modulation System:	Luminance; FM azimuth recording		
	Colour signal; converted subcarrier phase shift recording		
Input Level:	VIDEO IN (PHONO);	1.0 Vp-p,	75 ohm, terminated
Output Level:	VIDEO OUT (PHONO);	1.0 Vp-p,	75 ohm, terminated
	RF Modulated;		
	UHF channel A28–A69/E21–E69,		75 ohm

AUDIO

Input Level:	AUDIO IN (PHONO);	−6 dBV,	more than 47 kohm
Output Level:	AUDIO OUT (PHONO);	−6 dBV,	less than 1 kohm
Audio Track:	1 track (Normal-mono only)		

Video Horizontal Resolution:	Colour; more than 240 lines (SP)
Signal-to-Noise Ratio:	Video; more than 43 dB (SP)
	Audio; more than 43 dB (SP)
Audio Frequency Response:	80 Hz–8 kHz/SP
Operating Temperature:	5°C–40°C
Operating Humidity:	35%–80%
Weight:	3.5 kg
Dimensions:	470 (W)×87 (H)×283 (D) mm
Standard Accessories:	1 pc. RF Coaxial cable
	1 pc. Remote Control
	2 pcs. R6 size batteries

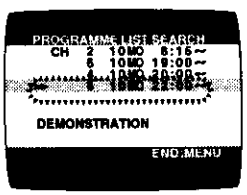
Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Note to electrical appliance dealers only

To Demonstrate "Programme List Search"

1 Eject a video cassette, if it has been inserted.
2 Keep pressing the SEARCH button ❹ on the remote controller for at least 5 seconds.
3 Then, the demonstration mode will be displayed on the TV screen.
4 Press the MENU button ㊳ to stop the demonstration.

On Screen Display



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